NOTES

1. Papers selected for inclusion in General Sessions will be available at the Conference in the following official languages of the United Nations: English, French, Russian and Spanish.

2. Papers selected for inclusion in Specialized Sessions will be available at the Conference in only one of the above official languages.

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CLASSIFICATION OF GROUND WATER RESOURCES AND METHODS OF THEIR EVALUATION

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by

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S U M M A R Y

Ground waters are the most vital factor in man's life and in the production activities of human society. The estimating of underground water resources is of no less importance than the determination of any kind of minerals.

The absence of the universally accepted classification and methods of estimating underground water resources in the majority of countries of the world results in the fact that in some of regions the withdrawal of water from water-bearing strata exceeds their natural replenishment. As a result there occurs a sharp decline of ground water levels, a change in the chemical composition of water and decreased well yields. Such phenomena occur in many regions of the globe and especially on the territories of under-developed countries (Morocco, Algeria, Tunisia, Libya, the United Arab Republic, Syria, Turkey, the Sudan, Ethiopia, Pakistan, India and others) where drilling water wells and their exploitation are done without adequate knowledge of the existing underground water resources. A number of wells completed in artesian waters are exploited without proper technical supervision and the water flowing from them not only depletes the available underground water resources, but waterlogs and salinates vast territories of land.

The need is ripe to introduce proper order in the matter of proper use of underground water resources and their conservation from depletion as a measure of great international importance.

The significance of this measure is enhanced by the fact that a number of artesian basins and separate water-bearing strata extend over the territories of several countries, and the improper use of the underground water resources within the limits of one country may worsen the quality of underground water and act upon the resources in adjacent countries. As an example one can cite the artesian basin of North Africa occupying the territory of over one million square kilometers and involving a considerable part of the territories of Morocco, Tunisia, Algeria and Central Africa.

The artesian basin in Libya lies not only within the confines of this country, but extends a long way into the territory of the United Arab Republic. The artesian basin of the United Arab Republic gets its water supply not only in the south of its own territory, but also within the limits of the Sudan, Ethiopia, and Central Africa. The Arabian artesian basin commencing on the coast of the Red Sea, embraces Saudi Arabia and, passing through Kuwait, stretches on towards the Persian Gulf. Many artesian basins of Pakistan extend into India. This is the case in a number of other countries of the world.

In this connection it seems expedient to use their national specialists in this work, to set about the work of revealing the hydrogeological regularities of artesian basins situated on the territories of under-developed countries

within the framework of international cooperation and with the appropriate help of the U.N.O. mutual agreement of the interested countries and the indispensable participation.

When confronted with the lack of adequate information for certain regions it will be required to drill a sufficient number of holes prospecting for ground water in order to correlate the geological formations and the water-holding capacity of adjacent territories and reveal new water-bearing strata.

In the Soviet Union the underground water resources are investigated in accordance with a plan, and without approval the construction of water intakes and the initiation of water economy measures are prohibited.

The methods used of estimating underground water resources are based on detailed geological, hydrogeological, hydrochemical and bacteriological studies, the investigation of water balance, subsurface flow, conditions of exploitation of operating water intakes and on groundy water regimes.

It seems to us that the problem of complex investigation and utilization of the underground water resources of the earth is very urgent and demands the closest attention of world public opinion and in the first place of the scientists of all countries. It must be considered expedient to set up for this purpose a body of leading scientists of a number of countries in the framework of the U.N.O. the purpose of which is to study the current situation on the matter of rational utilization and conservation of underground water resources of the earth and on this basis to work out suggestions for the U.N.O. with the principal and immediate measures pointed out to this effect.

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